



Open Source Extensions to the VIVO Harvester

Alex Viggio

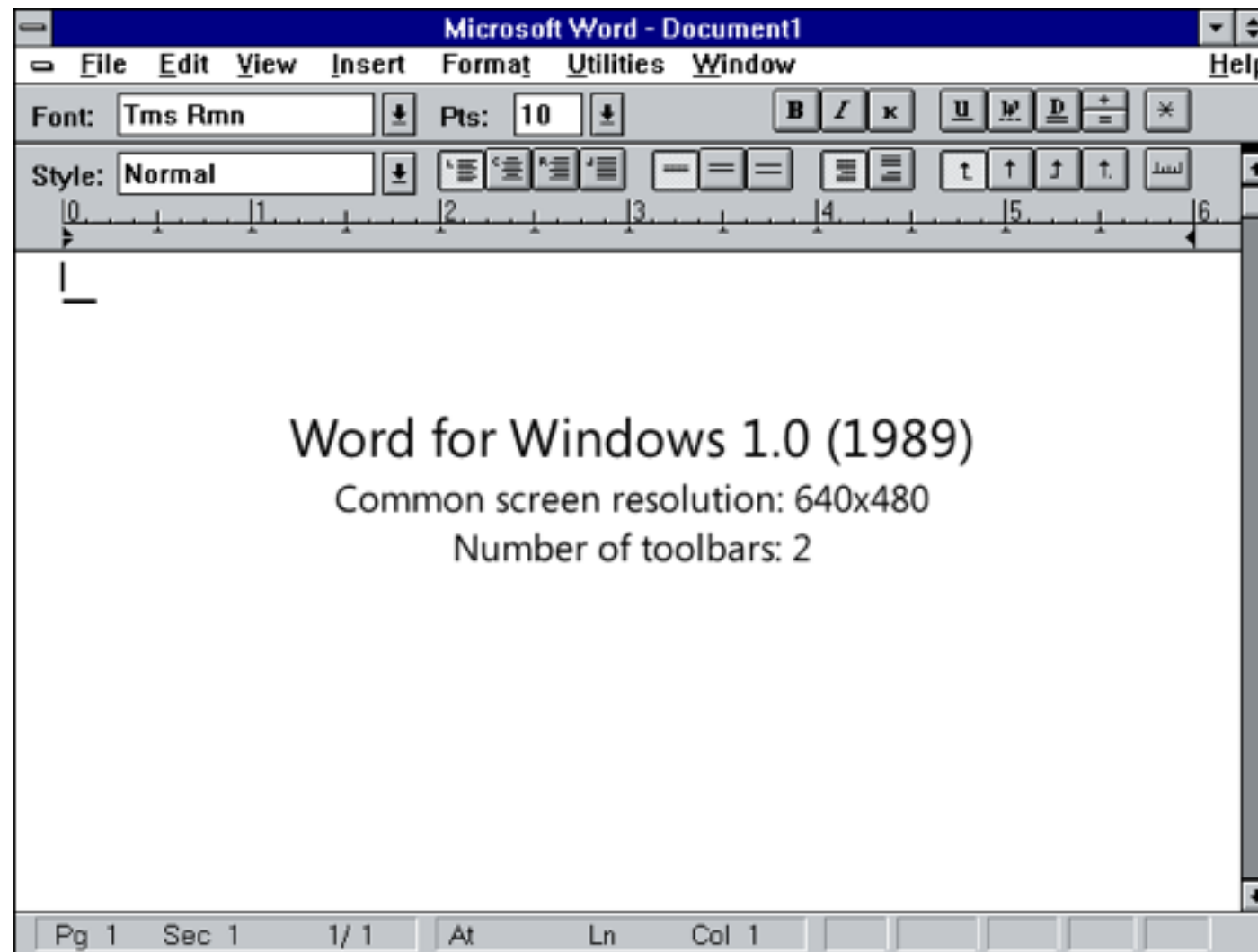
Senior Technical Consultant

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[@aviggio](#)



- *Symplectic Elements is used by research institutions to collect, understand and showcase their scholarly activities*
- Related sessions and poster
 - **Reflections of the Service Provider** @ Thursday 11:30am
 - **Zero to VIVO in 7 Days** @ Friday 11:30am
 - **Accelerating Access – Making Open Access Policies Work from Day One** (poster)
- Graham Triggs sessions focused on VIVO-ISF
 - **VIVO ISF: Investigating Speed Factors** @ Thursday 3:50pm
 - **The ISF Ontology: Lessons in Mapping** @ Friday 12:00pm



- Elements VIVO Harvester aka “WYSIWYG for VIVO”
- I’m here all week... ask me anything :)



PAYROLL DEPT.

For attention
gently push open
the hatch door.

If locked please
ring the bell.

Flat File Model

	Route No.	Miles	Activity
Record 1	I-95	12	
Record 2	I-495	05	
Record 3	SR-301	33	

Relational Model

Activity Code	Activity Name
23	Patching
24	Overlay
25	Crack Sealing

Key = 24

Activity Code	Date	Route No.
24	01/12/01	I-95
24	02/08/01	I-66

Object-Oriented Model

Object 1: Maintenance Report

Object 1 Instance

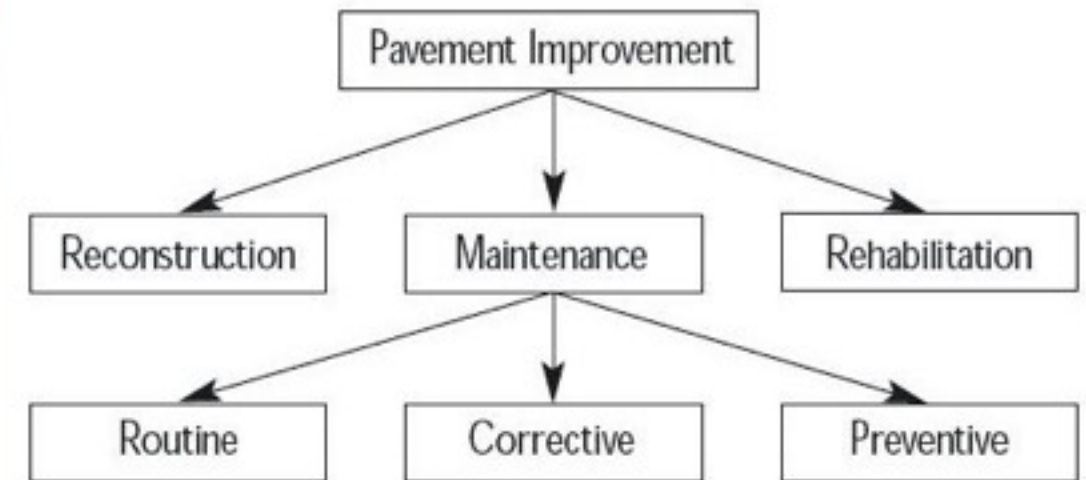
Date	
Activity Code	
Route No.	
Daily Production	
Equipment Hours	
Labor Hours	

01-12-01
24
I-95
2.5
6.0
6.0

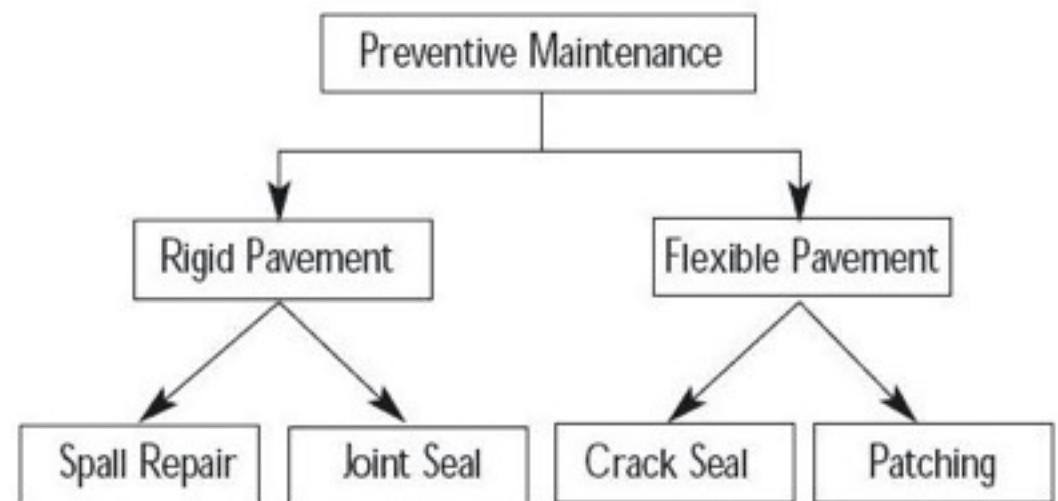
Object 2: Maintenance Activity

Activity Code	
Activity Name	
Production Unit	
Average Daily Production Rate	

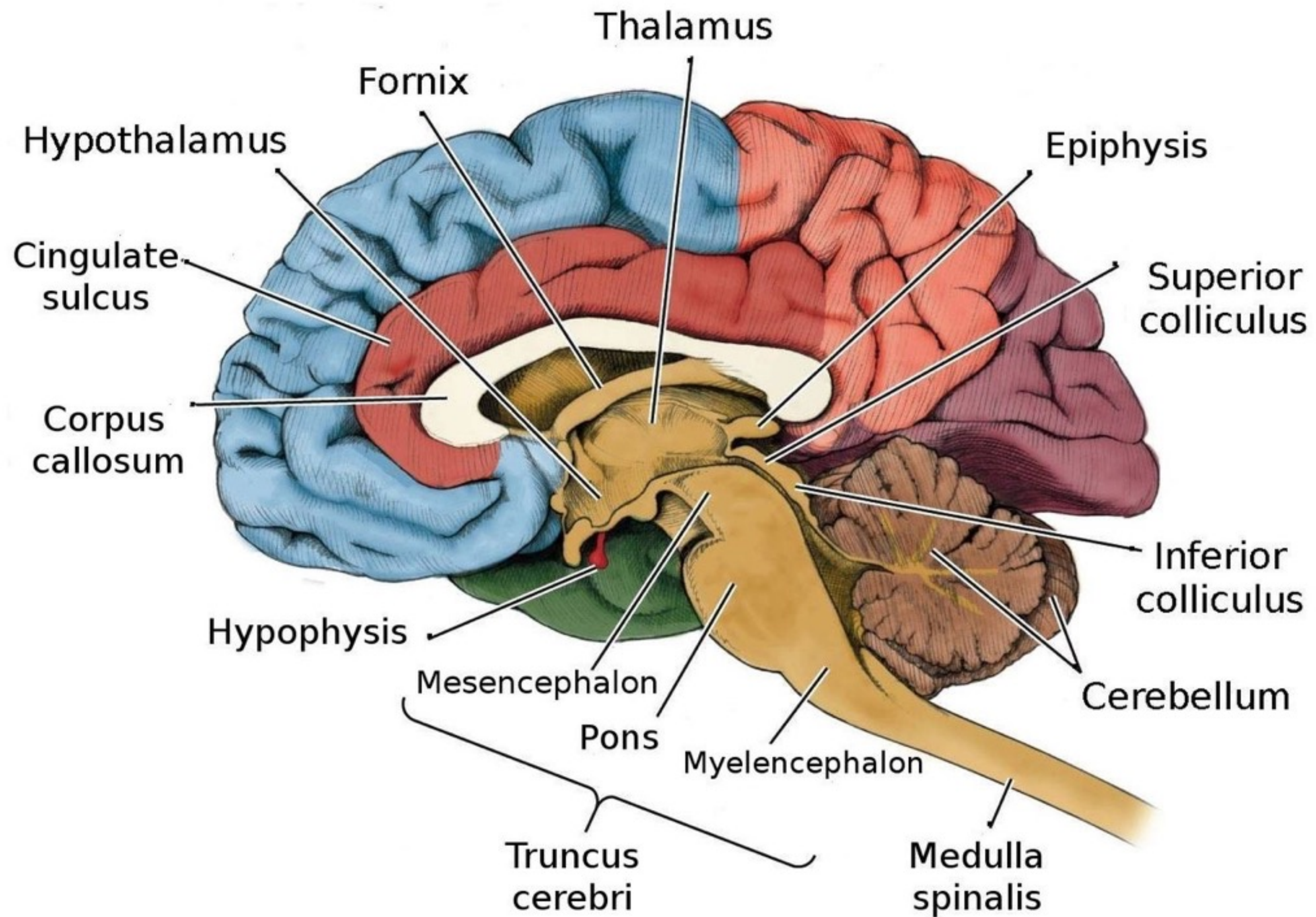
Hierarchical Model

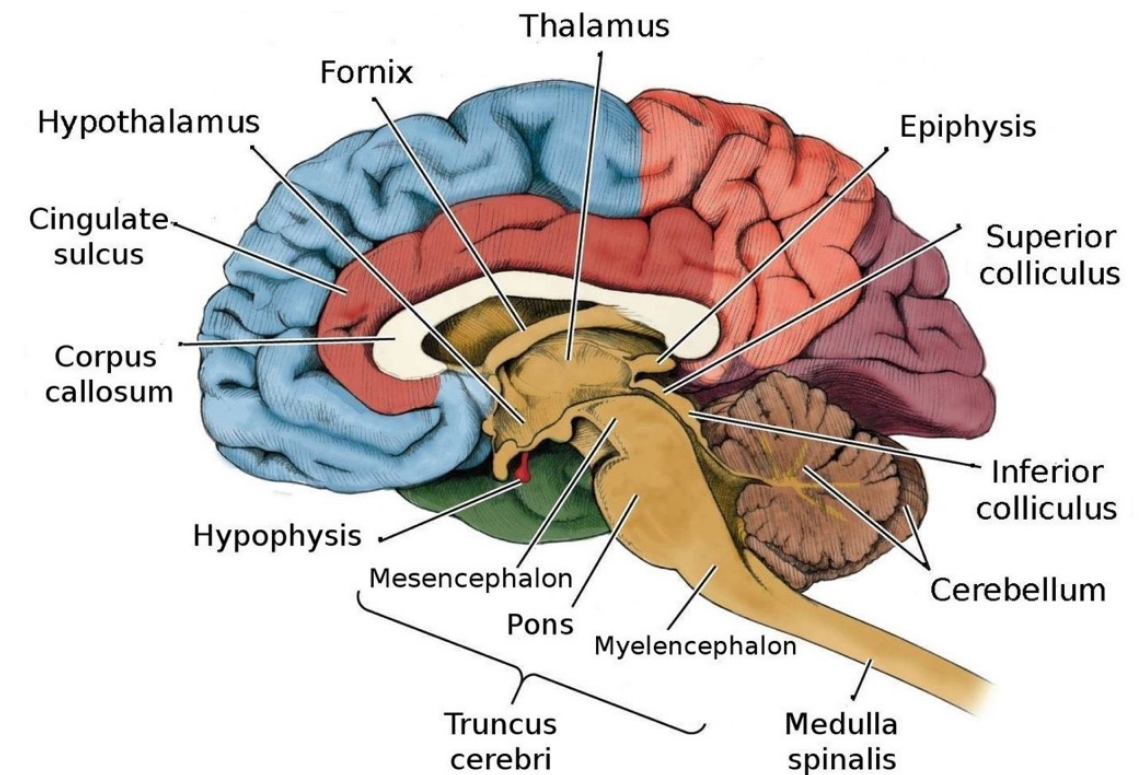
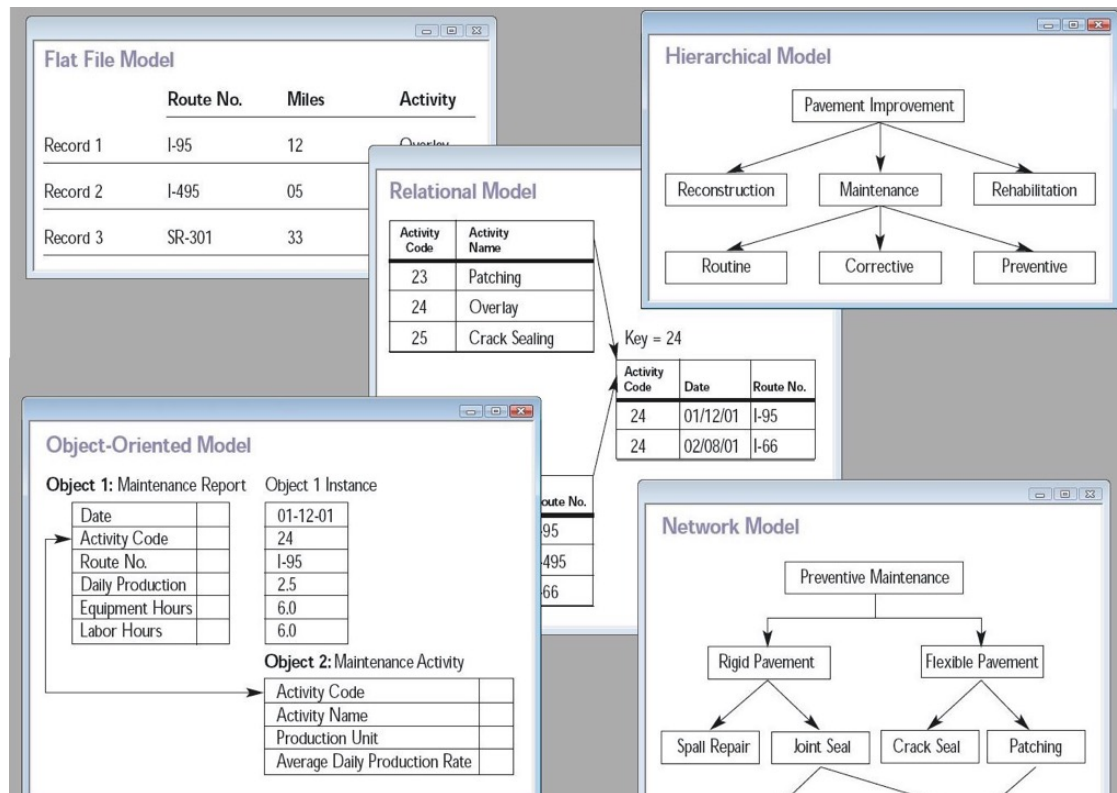


Network Model











Rachel Alison Adcock

Assistant Professor of Psychiatry and Behavioral Sciences

Current Appointments and Affiliations

- Assistant Professor of Psychiatry and Behavioral Sciences, [Psychiatry & Behavioral Sciences](#), [Translational Neuroscience](#), [Psychiatry & Behavioral Sciences](#) 2007 -
- Assistant Professor of Neurobiology, [Neurobiology](#), [Basic Science Departments](#) 2008 -
- Assistant Professor in the Department of Psychology & Neuroscience, [Psychology and Neuroscience](#), [Trinity College of Arts & Sciences](#) 2011 -
- Member of the Center for Cognitive Neuroscience, [Center for Cognitive Neuroscience](#), [Duke Institute for Brain Sciences](#) 2007 -
- Affiliate of the Center for Brain Imaging and Analysis, [Duke-UNC Center for Brain Imaging and Analysis](#), [Institutes and Centers](#) 2007 -
- Faculty Network Member of the Duke Institute for Brain Sciences, [Duke Institute for Brain Sciences](#), [University Institutes and Centers](#) 2008 -

Contact Information

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+ Education and Training

+ In the News

+ Subject Headings

- Awards and Honors

[Sloan Research Fellowship-Neuroscience](#), [Alfred P. Sloan Foundation](#), 2008

- Selected Publications

Journal Articles

Murty, VP, Shermohammed, M, Smith, DV, Carter, RM, Huettel, SA, and Adcock, RA. ["Resting state networks distinguish human ventral tegmental area from substantia nigra."](#) *NeuroImage* 100 (October 2014): 580-589. [Full Text](#)

Murty, VP, and Adcock, RA. ["Enriched encoding: reward motivation organizes cortical](#)

[Manage This Profile](#)

[Add Data to my Website](#)



Publications in VIVO



29 in the last 10 full years [i](#)



[Co-Author Network](#)



[Co-Investigator Network](#)

JUN 26, 2015

[Allen Song Named Interim Director of Brain Institute](#)

OCT 29, 2013

WUNC Radio

[How a sugar pill can treat mental illness](#)

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Journal Articles

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Murty, VP, and Adcock, RA. ["Enriched encoding: reward motivation organizes cortical networks for hippocampal detection of unexpected events."](#) *Cereb Cortex* 24 (August 2014): 2160-2168. [Full Text](#) [Link to Item](#)

Kollins, SH, and Adcock, RA. ["ADHD, altered dopamine neurotransmission and reinforcement processes: Implications for smoking and nicotine dependence."](#) *Neuro-Psychopharmacology and Biological Psychiatry* 52 (July 3, 2014): 1-11. [Full Text](#)

Dandash, O, Fornito, A, Lee, J, Keefe, RS, Chee, MW, Adcock, RA, and Harrison, BJ. ["Altered striatal functional connectivity in subjects with schizophrenia."](#) *Schizophrenia bulletin* 40, no. 4 (July 2014): 900-910. [Full Text](#)

Kollins, SH, and Adcock, RA. ["ADHD, altered dopamine neurotransmission and reinforcement processes: implications for smoking and nicotine dependence."](#) *Neuro-psychopharmacology & biological psychiatry* 52 (July 2014): 1-11. [Full Text](#)

[Show More Journal Articles...](#)

- Selected Grants

[Motivated Memory as Therapeutic Target](#) awarded by [National Institutes of Health](#)
[Instructed Activation of the Human Dopaminergic Midbrain using Real-Time fMRI](#) awarded by [National Institutes of Health](#) 2014 - 2016

- Recent Courses

[NEUROBIO 793: Research in Neurobiology](#) 2015 -

[NEUROSCI 755: Interdisciplinary Program in Cognitive Neuroscience \(IPCN\) Rotation](#) 2015 -

[NEUROSCI 150: Research Practicum](#) 2013 -

[PSY 494: Research Independent Study](#) 2013 -

Elements Data Model

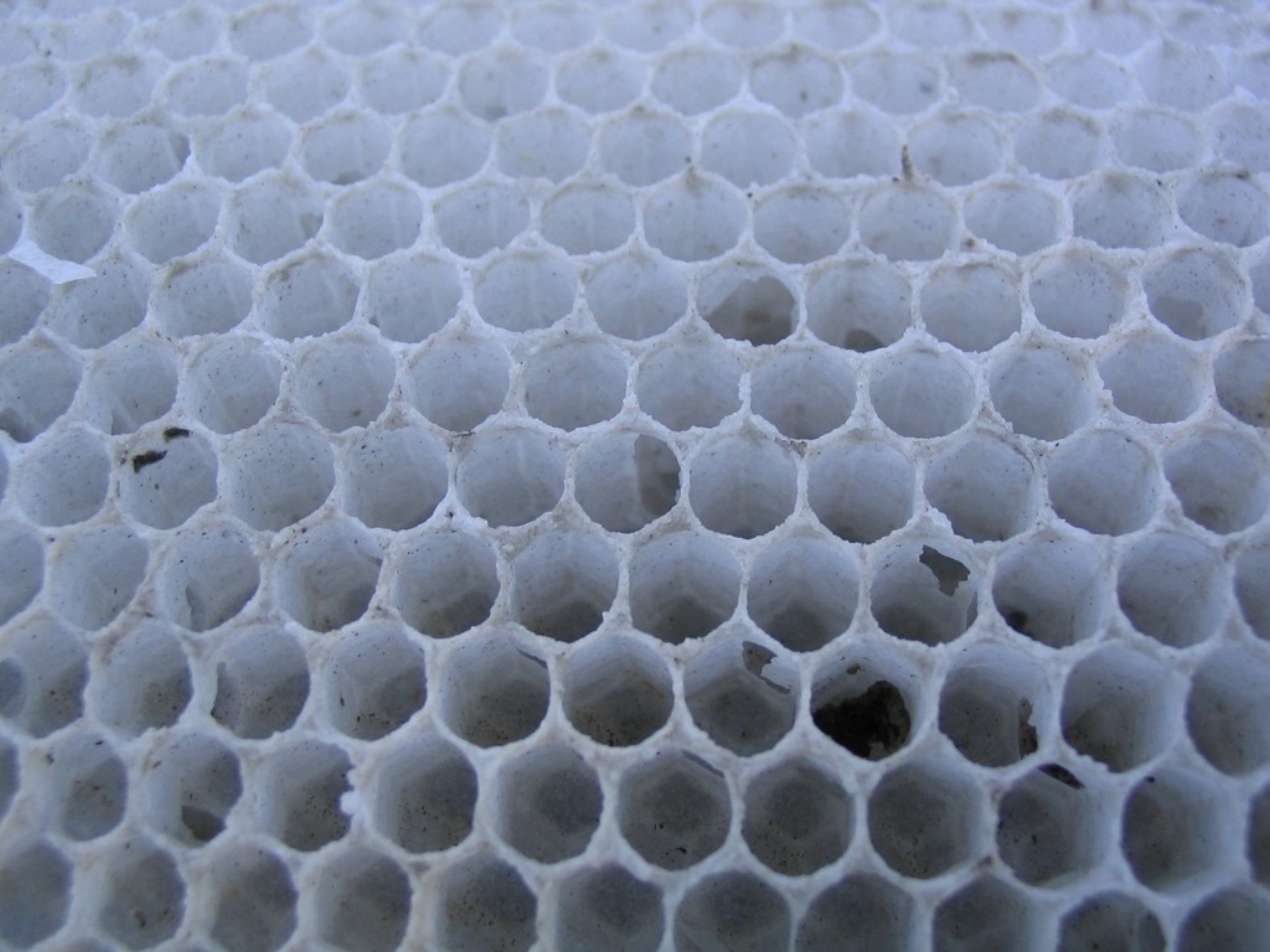
- **Objects**
 - Publication, User, Grant, Professional and Teaching Activities, etc.
 - Fields stored in records ('manual', PubMed, Crossref, etc.)
 - Users special case (fields on objects)
- **Relationships**
 - Object-to-object, includes context
 - publication-user-authorship (user authored pub)
 - publication-user-editorship (user edited pub)
 - publication-grant-funded
 - activity-user-association

Elements API Overview

- API is a RESTful web service using XML
- API has been bundled since Elements 3.4
- API versions created for breaking changes
 - Version number same as Elements version
 - Elements releases may contain non-breaking changes
- Latest Elements 4.15 release still supports API 4.9
- Latest open source Elements Harvester works with API 4.9 and newer
- Older versions of Elements Harvester works with API 3.7, 3.7.16, and 4.6

Elements API Admin

- Can create multiple API Endpoints
 - *Best practice: require HTTPS*
 - *Best practice: create a VIVO harvester specific endpoint — makes API server logs more useful*
- Must grant access from external systems
 - *Best practice: restrict access to internal network IP for host of VIVO harvester process*
- Can create multiple API Accounts
 - *Best practice: create a VIVO harvester specific login that only has read-only access to HR data*
 - *Best practice: apply recommended strong password criteria*



Elements Harvester

- Extension to open source VIVO Harvester
- Developed against version 1.5
- Requires Apache Maven 2+
- Mozilla Public License Version 2.0
- <https://github.com/Symplectic/vivo>

Elements Harvester

- Java interface to Elements API
- XSLT mapping of Elements objects to VIVO-ISF ontology
- Efficient retrieval of users, profile data, profile photos, objects (publications, grants, activities, etc.) and relationships



Building Harvester

- Clone from GitHub
 - **git clone git@github.com:Symplectic/vivo.git**
- Go to dependencies directory
- Run “mvn install”
- Go to elements-harvester directory
- Run “mvn clean package”

Installing Harvester

- Download the VIVO Harvester 1.5 build (.tar.gz)
- **<http://sourceforge.net/projects/vivo/files/VIVO%20Harvester/>**
- Extract elements-vivo-harvester.tar.gz
- Copy contents over default VIVO Harvester
- More detailed notes can be shared as GitHub Gist

Configuring Harvester

- Edit **run-elements.sh** and specify Harvester install directory
- Edit **elements.config.xml**
 - apiEndpoint, apiUsername, apiPassword
 - vivoBaseURI, vivolImageDir, currentStaffOnly, visibleLinksOnly, paramGroups, excludeGroups
 - <Param
name="queryObjects">users,publications,grants,activities,teaching-activities</Param>
- Optionally edit **elements.config.xml**
 - externalPersons, config:record-precedences, config:journal-precedences



Running Harvester

- In Elements VIVO Harvester installation directory:
 - go to example-scripts/example-elements
 - run ./run-elements.sh
- Notes:
 - creates data and previous-harvest directories
 - do NOT remove previous-harvest between executions for differential updates
 - if you remove previous-harvest, start with a clean VIVO instance

Running Harvester

- A typical Element Harvest:
 - Fetch and Translate
 - Transfer
 - Diff x2 (subtractions and additions)
 - Transfer to “previous” x2 (sub and add)
 - Transfer to live x2 (sub and add)

Elements Harvester Benefits

- Simplified process: Elements built-in disambiguation and de-duplication replaces need for scoring, matching, qualifying, and smushing in a standard VIVO Harvester workflow
- Allows you to stand up a well populated VIVO in hours, re-using the data in your Elements instance, and allowing your project stake holders to focus on data review and user experience
- Allows VIVO implementation team to focus on any custom XSLT translation that may be required by their Elements or VIVO data model customization



Please Contribute :)

- Pull requests are encouraged!
 - Fork our repository on GitHub — <https://github.com/Symplectic/vivo>
 - Commit to your fork
 - Open a pull request
- Our GitHub Issues is open for business! Clients are also free to raise a ticket with Symplectic's help desk
- Allows you to stand up a well populated VIVO in hours, re-using the data in your Elements instance, and allowing your project stake holders to focus on data review and user experience
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#questions?